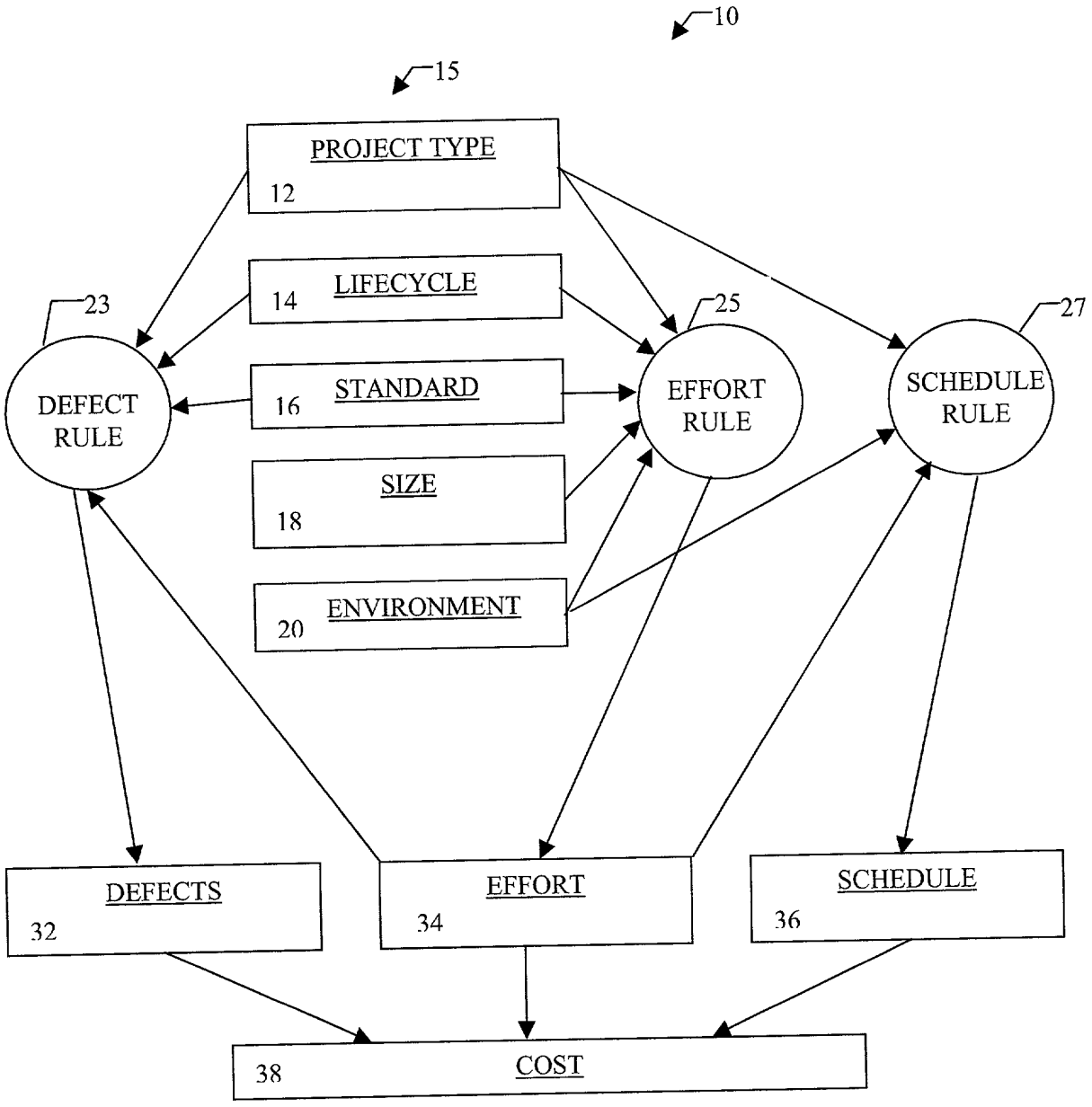
10
15
PROJECT TYPE
12
LIFECYCLE
14
STANDARD
16
SIZE
18
ENVIRONMENT
20
23
DEFECT RULE
25
EFFORT RULE
27
SCHEDULE RULE
DEFECTS
32
EFFORT
34
SCHEDULE
36
38
COST

FIG. 1

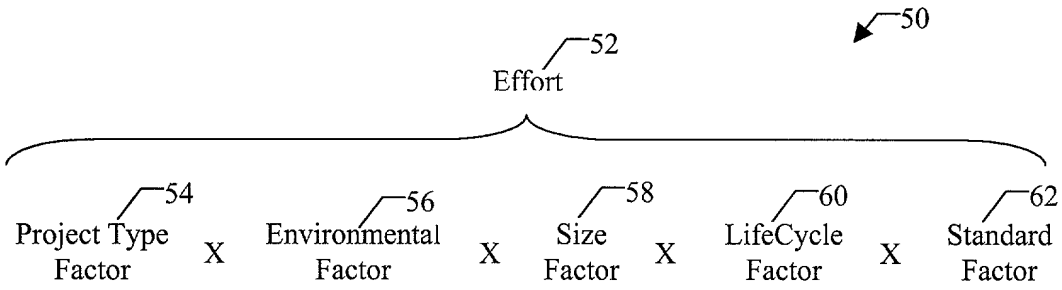

FIG. 2

70

	71	72	73	74	75	76
PROJECT TYPE	**M(a)**	**M(b)**	**T(a)**	**T(b)**	**D(a)**	**D(b)**
77 Military, Average	3.97	1.072	3.80	.378	1.37	1.09
78 Internet E-Commerce	3.08	1.030	3.20	.308	0.85	2.12
79 Embedded, Average	3.60	1.111	4.00	.348	0.81	0.34
80 Commercial	2.40	1.006	2.50	.348	0.57	2.56
81 Systems	3.32	1.149	2.50	.348	1.13	0.53

FIG. 3

90

	91	92
ENVIRONMENTAL CONSIDERATIONS	Env(l)	Env(s)
94 Analyst Capability	0.85	0.0
95 Applications Experience	0.88	0.0
96 Language and Tool Experience	0.91	0.0
97 Management Capability	0.93	0.0
98 Management Experience	0.94	0.0
99 Process Materials	1.00	.0028

FIG. 4

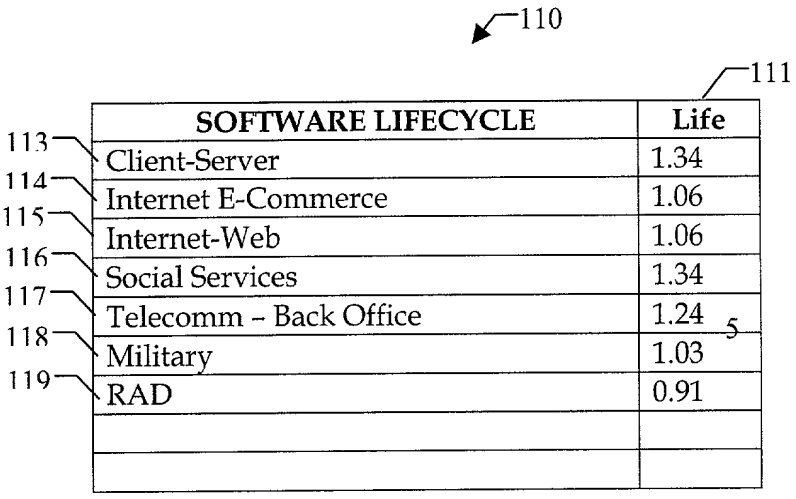
110
111
SOFTWARE LIFECYCLE
Life
113
Client-Server
1.34
114
Internet E-Commerce
1.06
115
Internet-Web
1.06
116
Social Services
1.34
117
Telecomm – Back Office
1.24
118
Military
1.03
119
RAD
0.91

FIG. 5

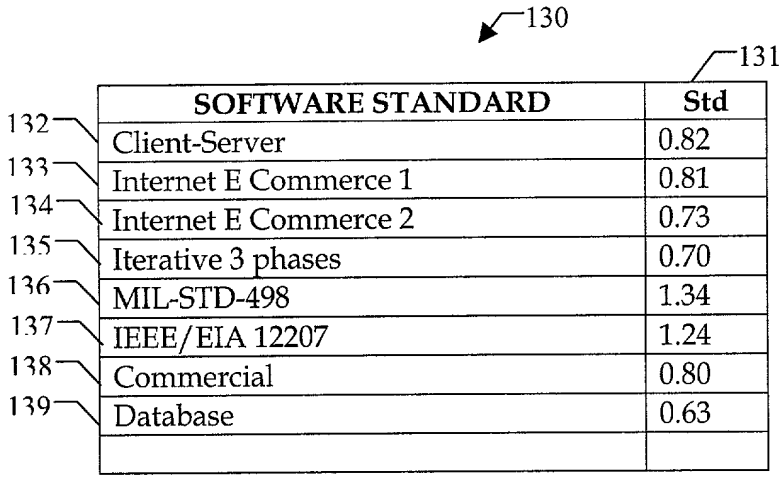
130
131
SOFTWARE STANDARD
Std
132
Client-Server
0.82
133
Internet E Commerce 1
0.81
134
Internet E Commerce 2
0.73
135
Iterative 3 phases
0.70
136
MIL-STD-498
1.34
137
IEEE/EIA 12207
1.24
138
Commercial
0.80
139
Database
0.63

FIG. 6

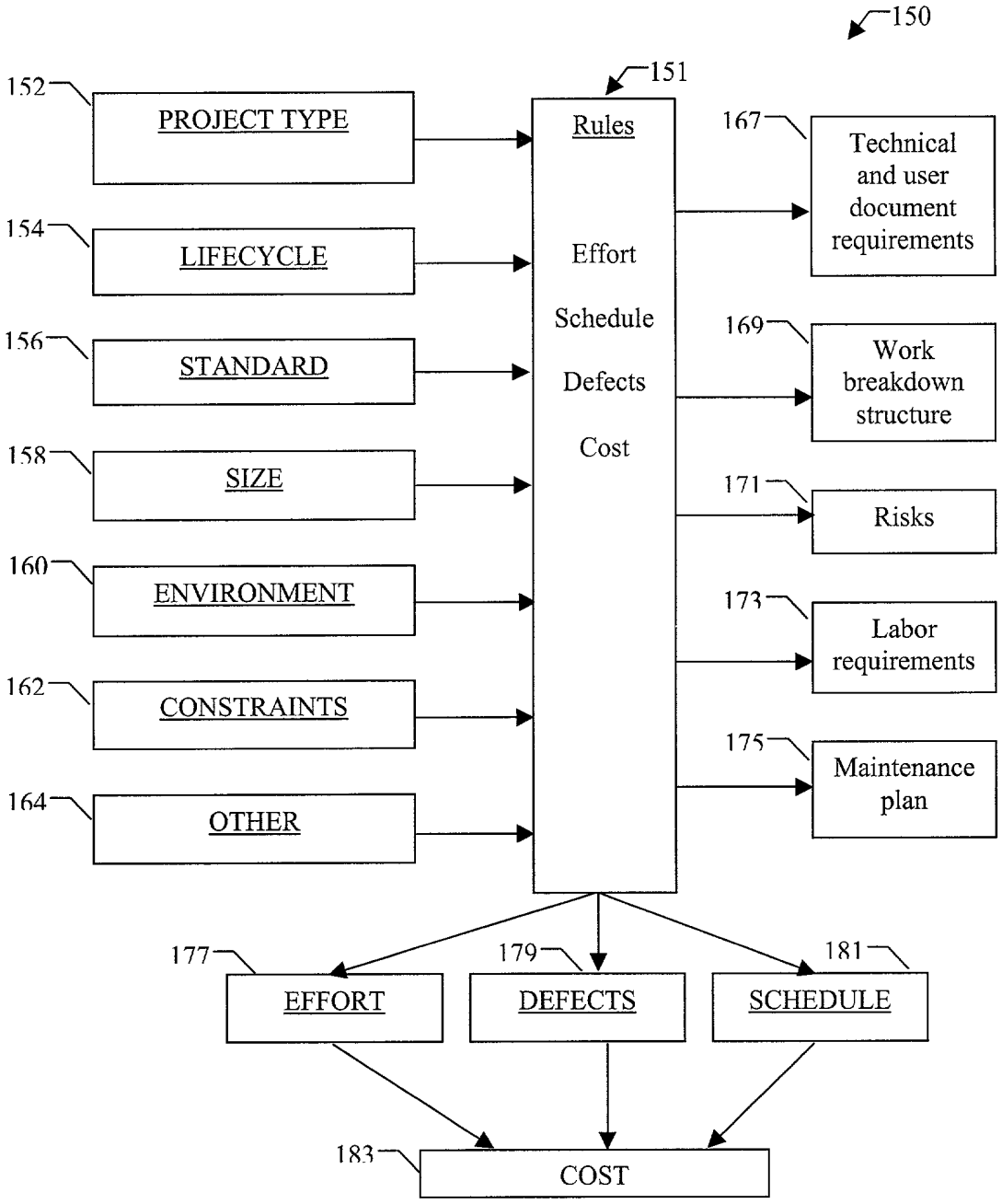
150
151
152
PROJECT TYPE
154
LIFECYCLE
156
STANDARD
158
SIZE
160
ENVIRONMENT
162
CONSTRAINTS
164
OTHER
Rules
Effort
Schedule
Defects
Cost
167
Technical and user document requirements
169
Work breakdown structure
171
Risks
173
Labor requirements
175
Maintenance plan
177
EFFORT
179
DEFECTS
181
SCHEDULE
183
COST

FIG. 7

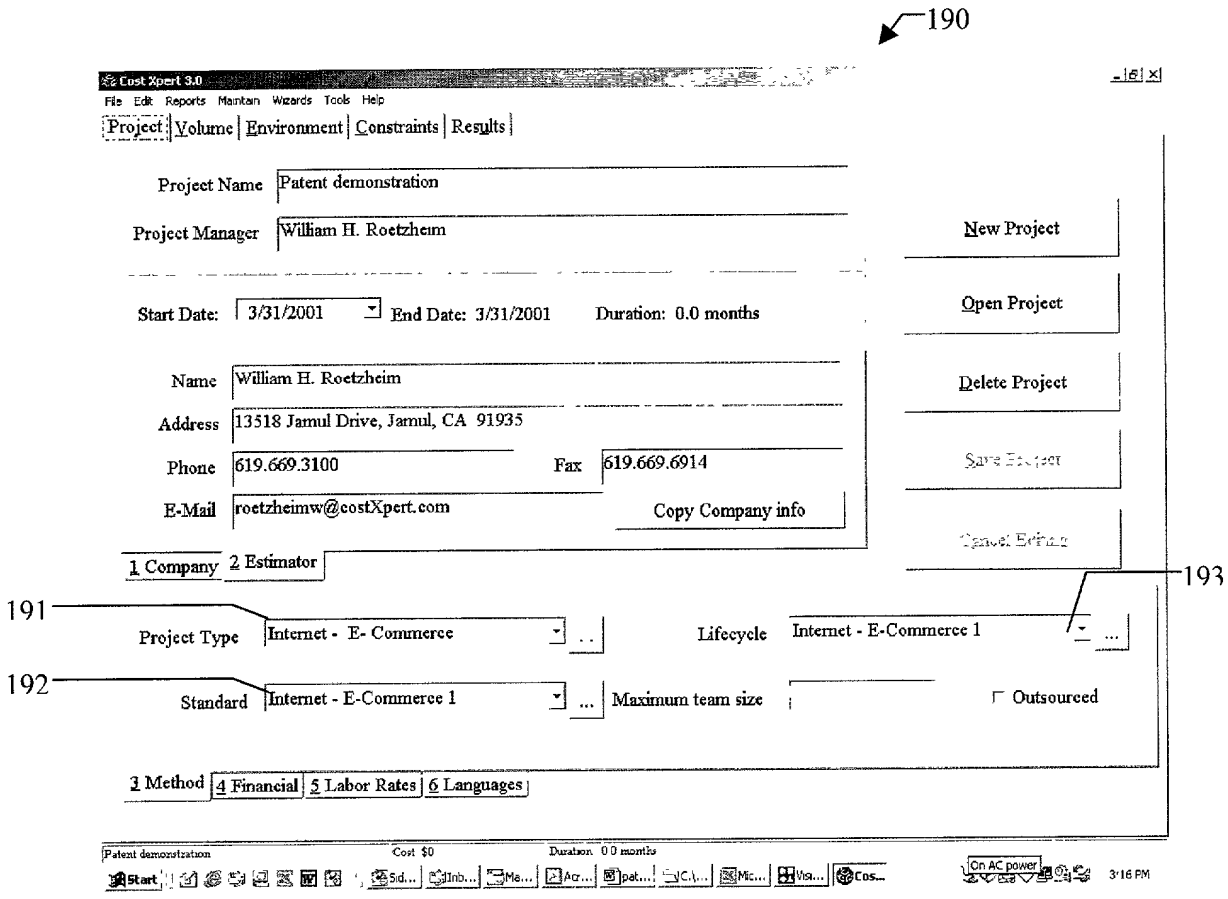
190
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Project Name Patent demonstration
Project Manager William H. Roetzheim
New Project
Start Date: 3/31/2001 End Date: 3/31/2001 Duration: 0.0 months
Open Project
Name William H. Roetzheim
Delete Project
Address 13518 Jamul Drive, Jamul, CA 91935
Phone 619.669.3100 Fax 619.669.6914
E-Mail roetzheimw@costXpert.com
Copy Company info
1 Company 2 Estimator
191
193
Project Type Internet - E- Commerce
Lifecycle Internet - E-Commerce 1
192
Standard Internet - E-Commerce 1
Maximum team size
Outsourced
3 Method 4 Financial 5 Labor Rates 6 Languages
Patent demonstration
Cost $0
Duration 0.0 months
Start
On AC power
3:16 PM

FIG. 8

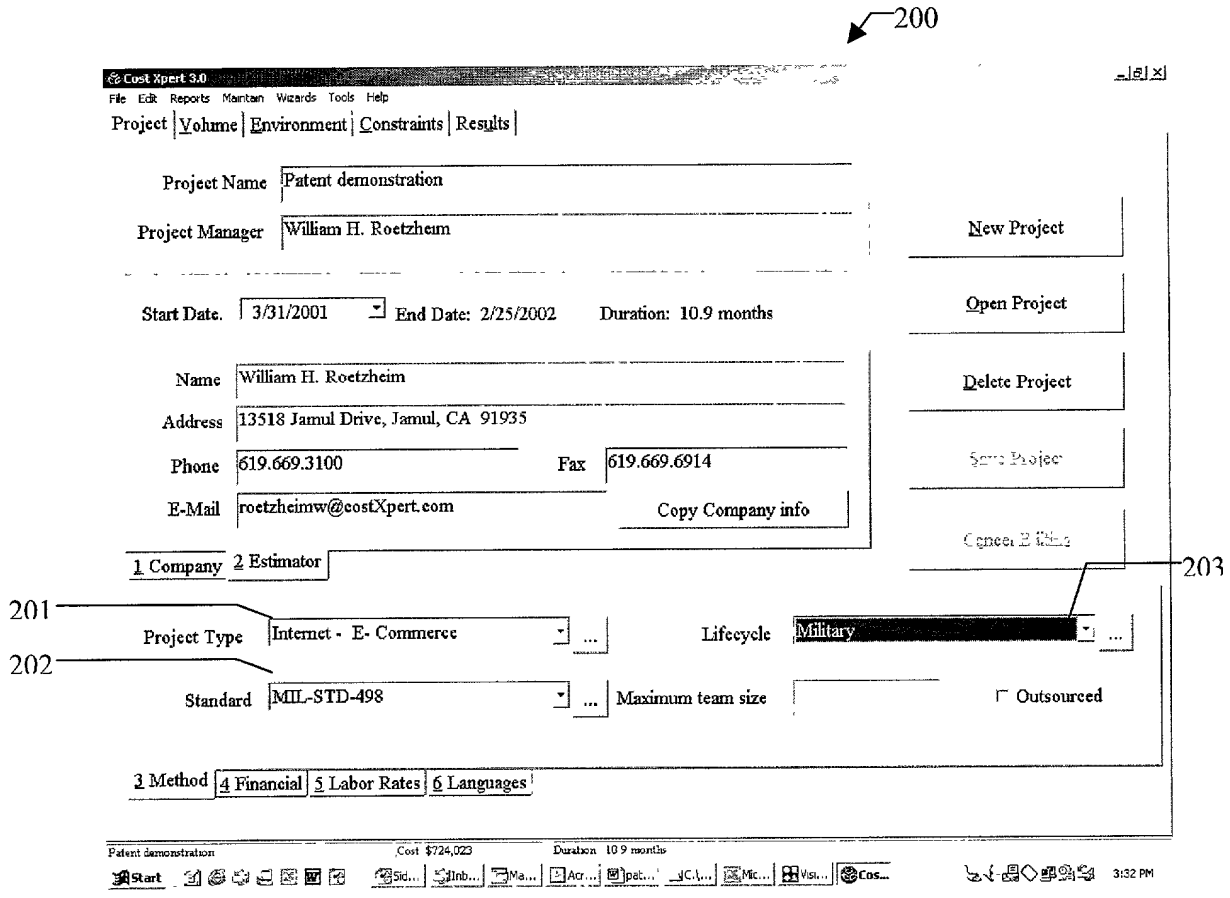
200
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Project Name Patent demonstration
Project Manager William H. Roetzheim
New Project
Start Date. 3/31/2001 End Date: 2/25/2002 Duration: 10.9 months
Open Project
Name William H. Roetzheim
Delete Project
Address 13518 Jamul Drive, Jamul, CA 91935
Phone 619.669.3100 Fax 619.669.6914
E-Mail roetzheimw@costXpert.com
Copy Company info
1 Company 2 Estimator
201
Project Type Internet - E- Commerce
Lifecycle Military
203
202
Standard MIL-STD-498
Maximum team size
Outsourced
3 Method 4 Financial 5 Labor Rates 6 Languages
Patent demonstration
Cost $724,023
Duration 10.9 months
Start
3:32 PM

FIG. 9

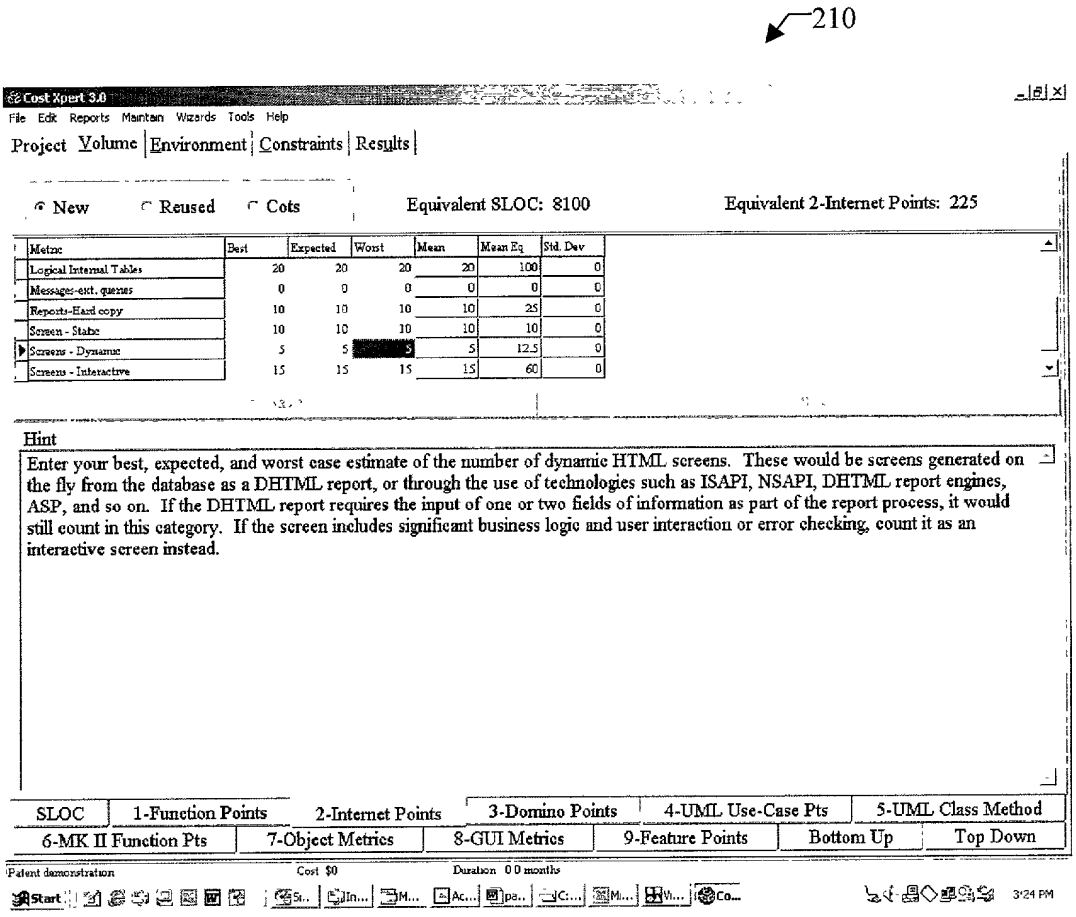
210
211
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
New Reused Cots
Equivalent SLOC: 8100
Equivalent 2-Internet Points: 225
Metric | Best | Expected | Worst | Mean | Mean Eq | Std. Dev
Logical Internal Tables | 20 | 20 | 20 | 20 | 100 | 0
Messages-ext. queues | 0 | 0 | 0 | 0 | 0 | 0
Reports-Hard copy | 10 | 10 | 10 | 10 | 25 | 0
Screen - Static | 10 | 10 | 10 | 10 | 10 | 0
Screens - Dynamic | 5 | 5 | 5 | 5 | 12.5 | 0
Screens - Interactive | 15 | 15 | 15 | 15 | 60 | 0
Hint
Enter your best, expected, and worst case estimate of the number of dynamic HTML screens. These would be screens generated on the fly from the database as a DHTML report, or through the use of technologies such as ISAPI, NSAPI, DHTML report engines, ASP, and so on. If the DHTML report requires the input of one or two fields of information as part of the report process, it would still count in this category. If the screen includes significant business logic and user interaction or error checking, count it as an interactive screen instead.
SLOC
1-Function Points
2-Internet Points
3-Domino Points
4-UML Use-Case Pts
5-UML Class Method
6-MK II Function Pts
7-Object Metrics
8-GUI Metrics
9-Feature Points
Bottom Up
Top Down
Patent demonstration
Cost $0
Duration 0.0 months
Start
3:24 PM

FIG. 10

5

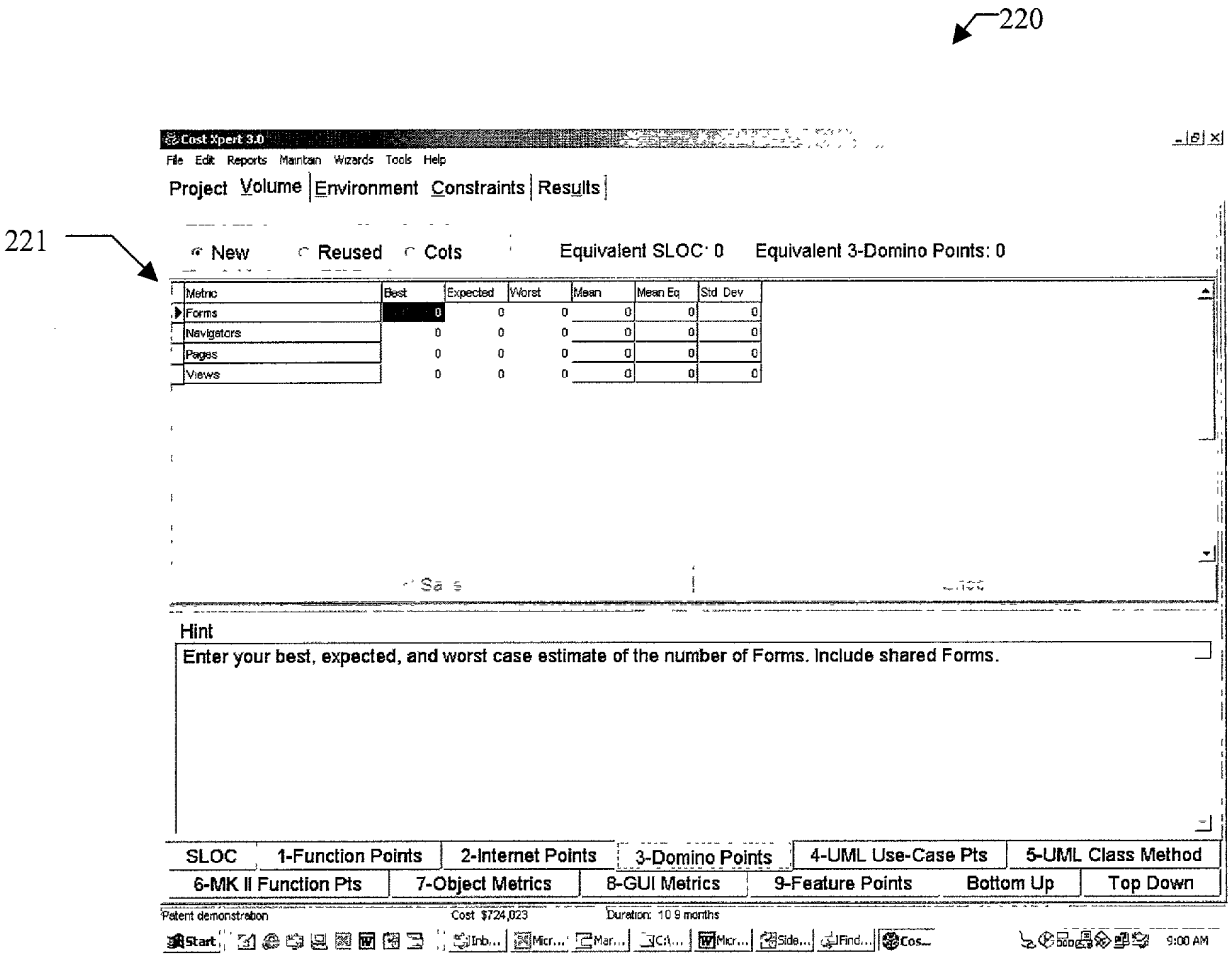
220
221
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
New
Reused
Cots
Equivalent SLOC: 0
Equivalent 3-Domino Points: 0
Metric
Best
Expected
Worst
Mean
Mean Eq
Std Dev
Forms
Navigators
Pages
Views
Hint
Enter your best, expected, and worst case estimate of the number of Forms. Include shared Forms.
SLOC
1-Function Points
2-Internet Points
3-Domino Points
4-UML Use-Case Pts
5-UML Class Method
6-MK II Function Pts
7-Object Metrics
8-GUI Metrics
9-Feature Points
Bottom Up
Top Down
Patent demonstration
Cost $724,023
Duration: 10.9 months
Start
9:00 AM

FIG. 11

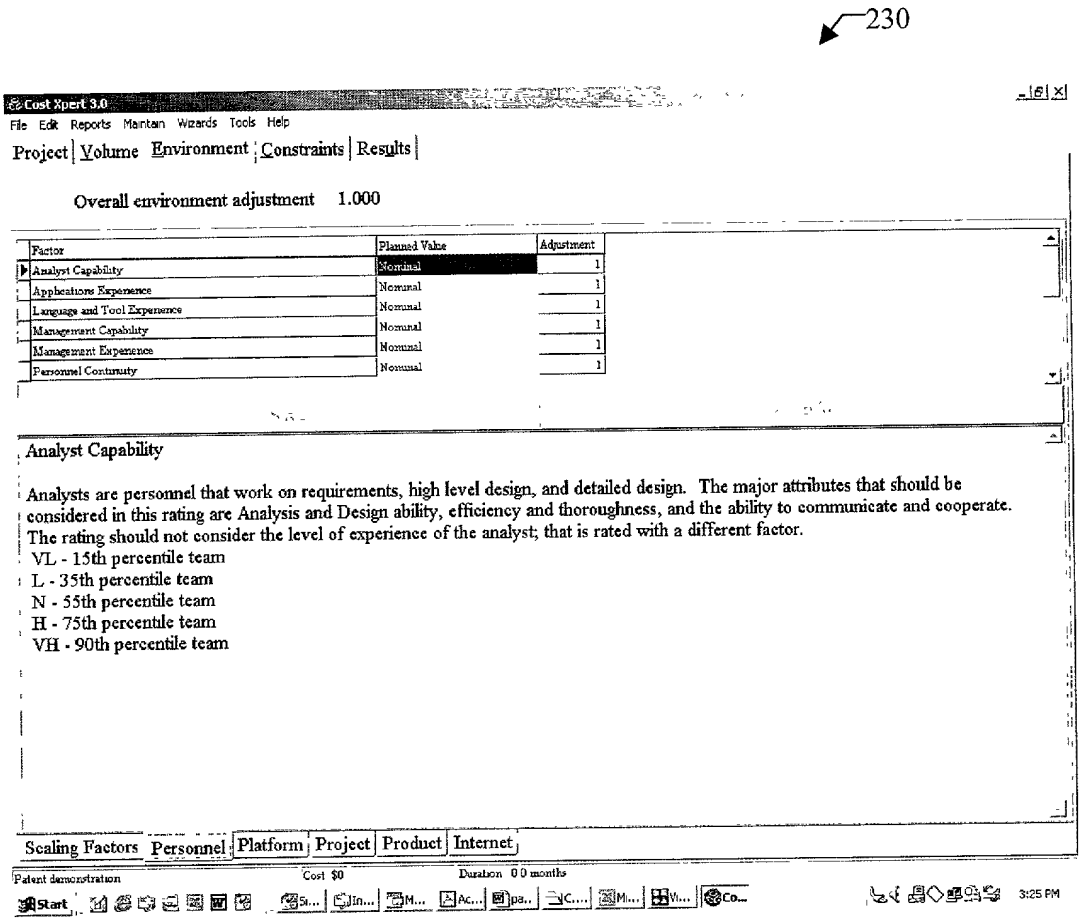

FIG. 12

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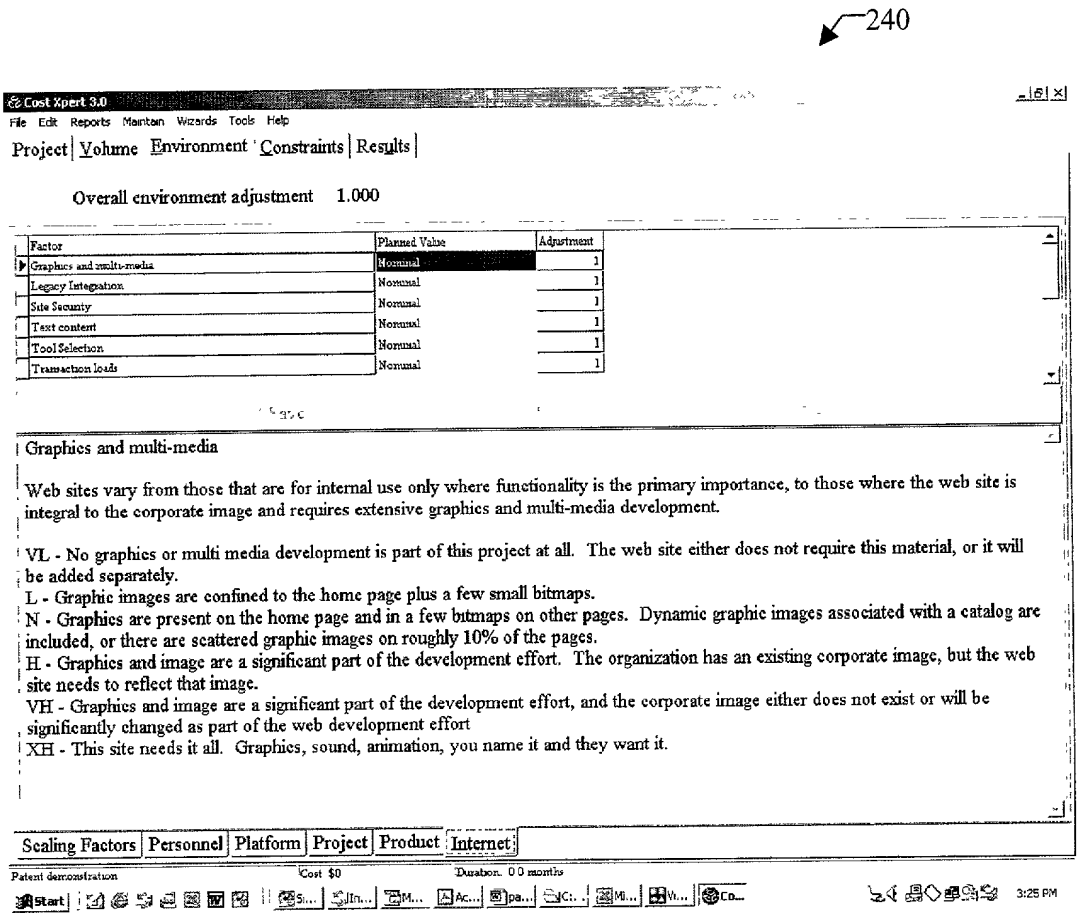
240
241
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project | Volume | Environment | Constraints | Results |
Overall environment adjustment 1.000
Factor
Planned Value
Adjustment
Graphics and multi-media
Nominal
1
Legacy Integration
Nominal
1
Site Security
Nominal
1
Text content
Nominal
1
Tool Selection
Nominal
1
Transaction loads
Nominal
1
Graphics and multi-media
Web sites vary from those that are for internal use only where functionality is the primary importance, to those where the web site is integral to the corporate image and requires extensive graphics and multi-media development.
VL - No graphics or multi media development is part of this project at all. The web site either does not require this material, or it will be added separately.
L - Graphic images are confined to the home page plus a few small bitmaps.
N - Graphics are present on the home page and in a few bitmaps on other pages. Dynamic graphic images associated with a catalog are included, or there are scattered graphic images on roughly 10% of the pages.
H - Graphics and image are a significant part of the development effort. The organization has an existing corporate image, but the web site needs to reflect that image.
VH - Graphics and image are a significant part of the development effort, and the corporate image either does not exist or will be significantly changed as part of the web development effort
XH - This site needs it all. Graphics, sound, animation, you name it and they want it.
Scaling Factors | Personnel | Platform | Project | Product | Internet
Patent demonstration
Cost $0
Duration. 0.0 months
Start
3:25 PM

FIG. 13

5

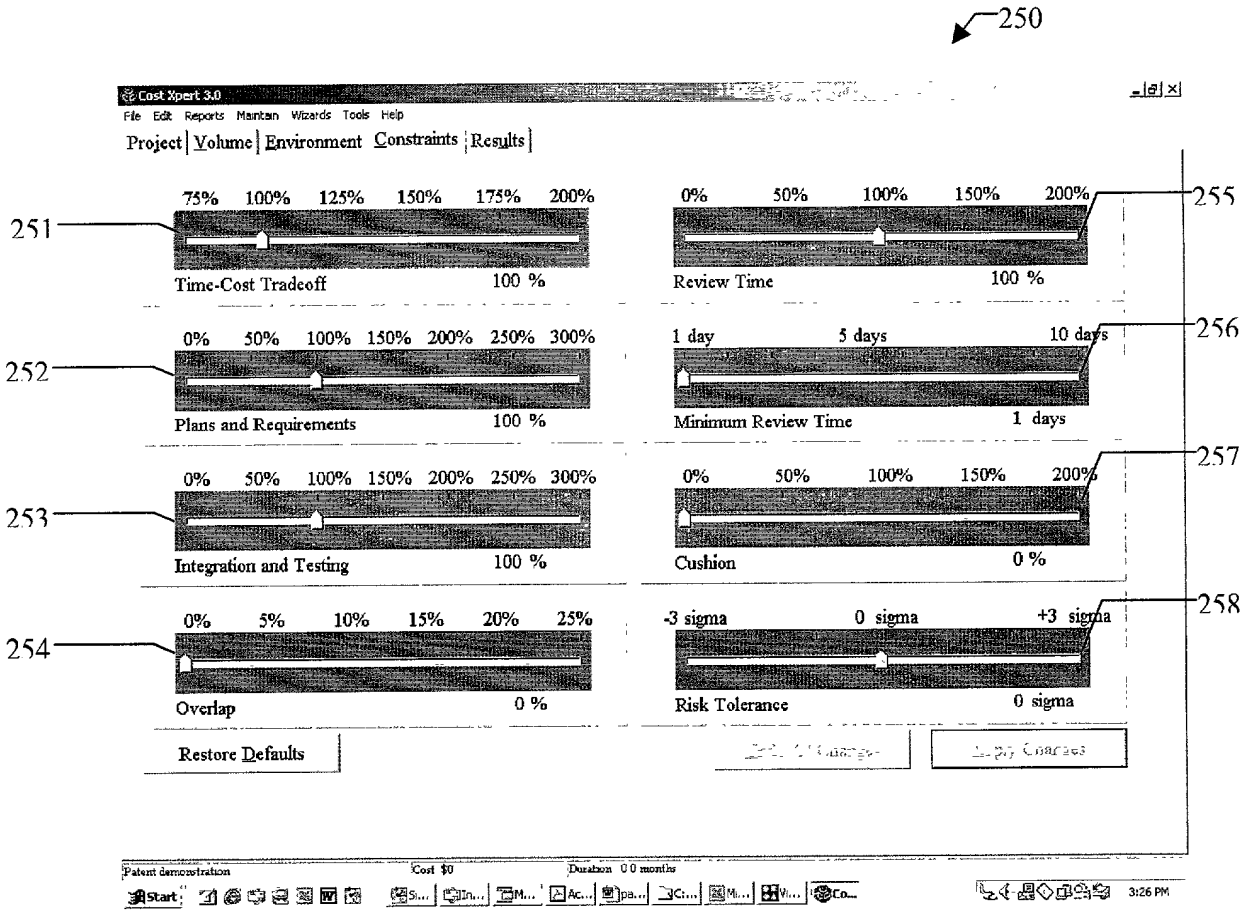
250
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project | Volume | Environment | Constraints | Results
251
75% 100% 125% 150% 175% 200%
Time-Cost Tradeoff
100 %
0% 50% 100% 150% 200%
Review Time
100 %
255
252
0% 50% 100% 150% 200% 250% 300%
Plans and Requirements
100 %
1 day 5 days 10 days
Minimum Review Time
1 days
256
253
0% 50% 100% 150% 200% 250% 300%
Integration and Testing
100 %
0% 50% 100% 150% 200%
Cushion
0 %
257
254
0% 5% 10% 15% 20% 25%
Overlap
0 %
-3 sigma 0 sigma +3 sigma
Risk Tolerance
0 sigma
258
Restore Defaults
Patent demonstration
Cost $0
Duration 0.0 months
Start
3:26 PM

FIG. 14

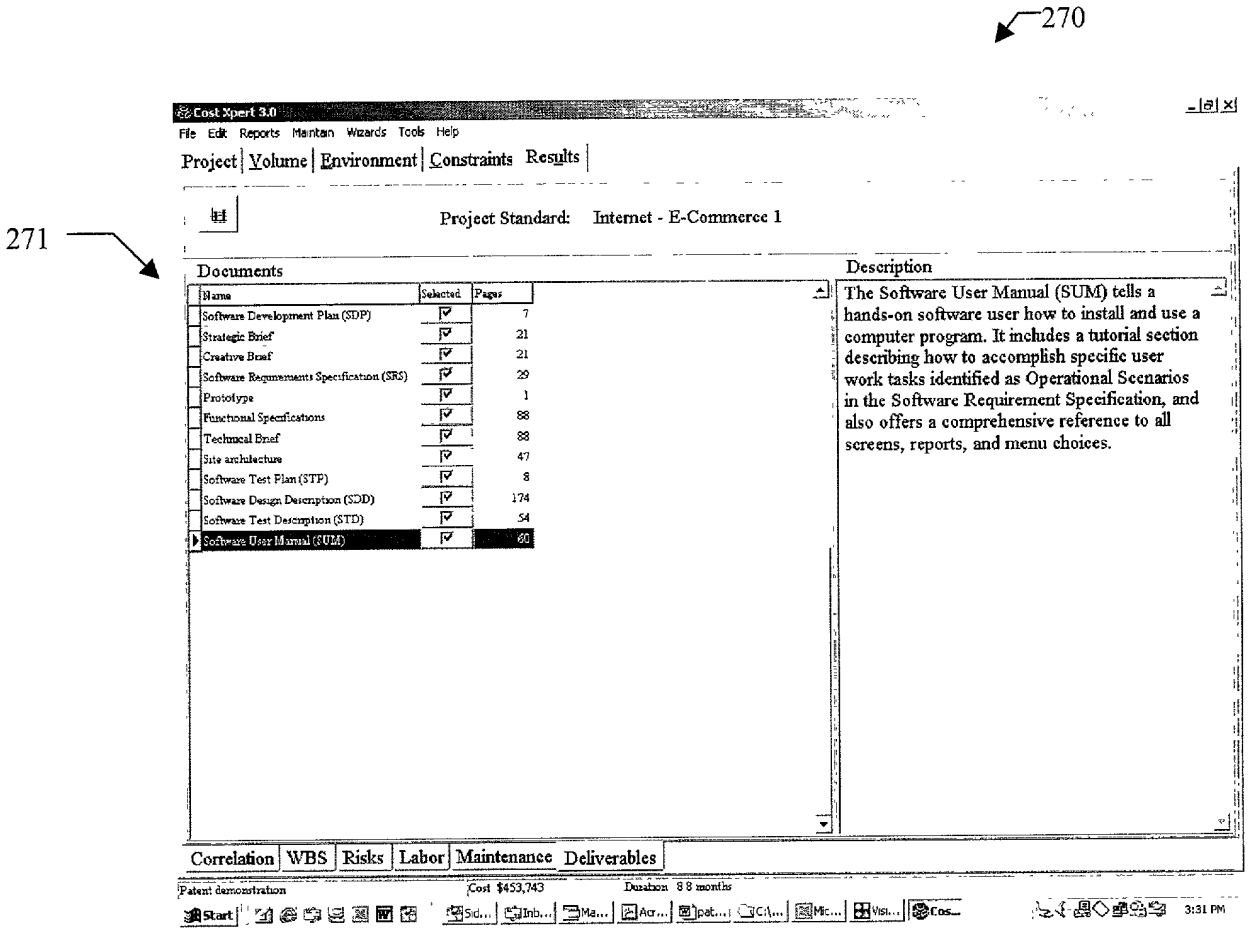
270
271
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Project Standard: Internet - E-Commerce 1
Documents
Name
Selected
Pages
Software Development Plan (SDP) 7
Strategic Brief 21
Creative Brief 21
Software Requirements Specification (SRS) 29
Prototype 1
Functional Specifications 88
Technical Brief 88
Site architecture 47
Software Test Plan (STP) 8
Software Design Description (SDD) 174
Software Test Description (STD) 54
Software User Manual (SUM) 60
Description
The Software User Manual (SUM) tells a hands-on software user how to install and use a computer program. It includes a tutorial section describing how to accomplish specific user work tasks identified as Operational Scenarios in the Software Requirement Specification, and also offers a comprehensive reference to all screens, reports, and menu choices.
Correlation WBS Risks Labor Maintenance Deliverables
Patent demonstration
Cost $453,743
Duration 8 8 months
Start
3:31 PM

FIG. 15

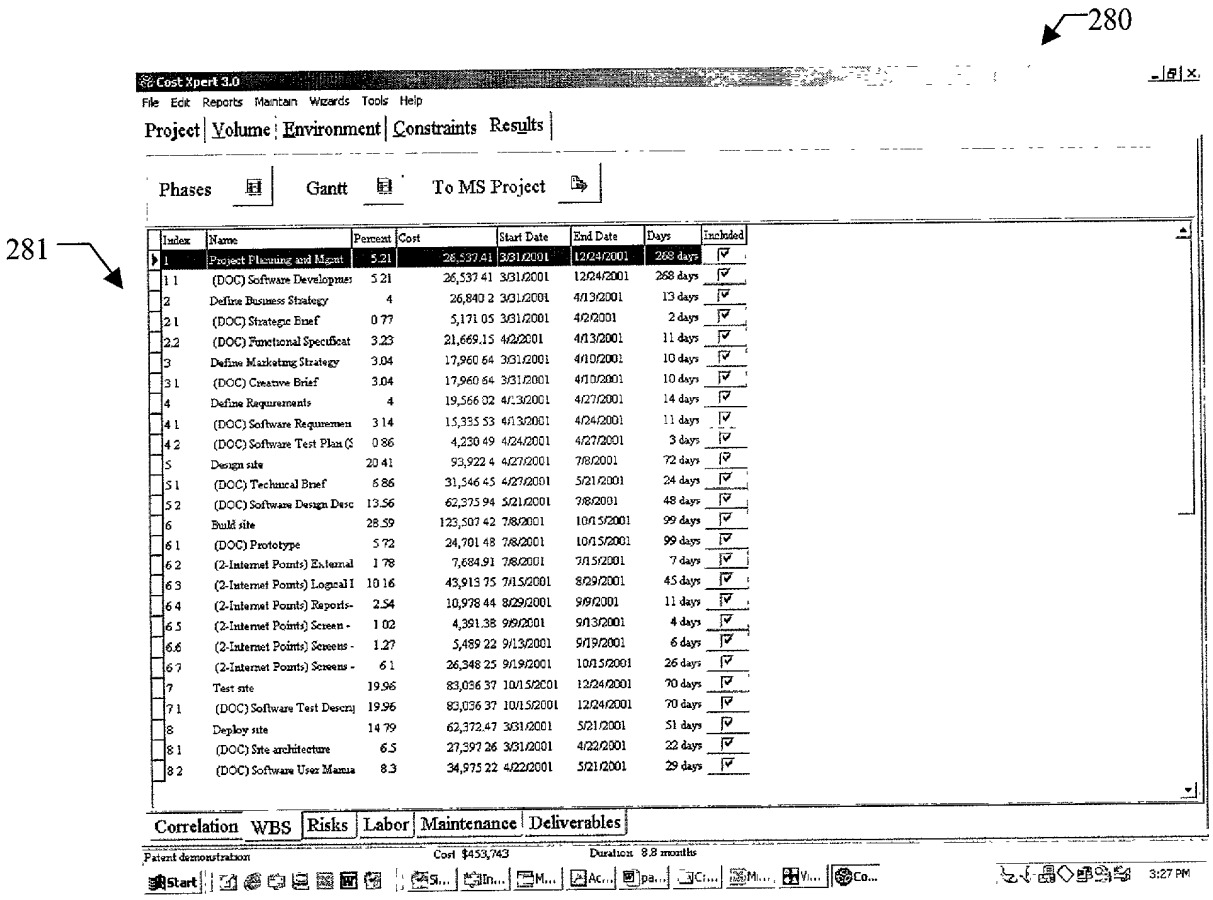
280
281
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Phases
Gantt
To MS Project
Index Name Percent Cost Start Date End Date Days Included
1 Project Planning and Mgmt 5.21 28,537.41 3/31/2001 12/24/2001 268 days
1.1 (DOC) Software Developmer 5.21 26,537.41 3/31/2001 12/24/2001 268 days
2 Define Business Strategy 4 26,840.2 3/31/2001 4/13/2001 13 days
2.1 (DOC) Strategic Brief 0.77 5,171.05 3/31/2001 4/2/2001 2 days
2.2 (DOC) Functional Specificat 3.23 21,669.15 4/2/2001 4/13/2001 11 days
3 Define Marketing Strategy 3.04 17,960.64 3/31/2001 4/10/2001 10 days
3.1 (DOC) Creative Brief 3.04 17,960.64 3/31/2001 4/10/2001 10 days
4 Define Requirements 4 19,566.02 4/13/2001 4/27/2001 14 days
4.1 (DOC) Software Requiremen 3.14 15,335.53 4/13/2001 4/24/2001 11 days
4.2 (DOC) Software Test Plan (S 0.86 4,230.49 4/24/2001 4/27/2001 3 days
5 Design site 20.41 93,922.4 4/27/2001 7/8/2001 72 days
5.1 (DOC) Technical Brief 6.86 31,546.45 4/27/2001 5/21/2001 24 days
5.2 (DOC) Software Design Doc 13.56 62,375.94 5/21/2001 7/8/2001 48 days
6 Build site 28.59 123,507.42 7/8/2001 10/15/2001 99 days
6.1 (DOC) Prototype 5.72 24,701.48 7/8/2001 10/15/2001 99 days
6.2 (2-Internet Points) External 1.78 7,684.91 7/8/2001 7/15/2001 7 days
6.3 (2-Internet Points) Logical I 10.16 43,913.75 7/15/2001 8/29/2001 45 days
6.4 (2-Internet Points) Reports- 2.54 10,978.44 8/29/2001 9/9/2001 11 days
6.5 (2-Internet Points) Screen - 1.02 4,391.38 9/9/2001 9/13/2001 4 days
6.6 (2-Internet Points) Screens - 1.27 5,489.22 9/13/2001 9/19/2001 6 days
6.7 (2-Internet Points) Screens - 6.1 26,348.25 9/19/2001 10/15/2001 26 days
7 Test site 19.96 83,036.37 10/15/2001 12/24/2001 70 days
7.1 (DOC) Software Test Descrij 19.96 83,036.37 10/15/2001 12/24/2001 70 days
8 Deploy site 14.79 62,372.47 3/31/2001 5/21/2001 51 days
8.1 (DOC) Site architecture 6.5 27,397.26 3/31/2001 4/22/2001 22 days
8.2 (DOC) Software User Manua 8.3 34,975.22 4/22/2001 5/21/2001 29 days
Correlation WBS Risks Labor Maintenance Deliverables
Patent demonstration
Cost $453,743
Duration 8.8 months
Start
3:27 PM

FIG. 16

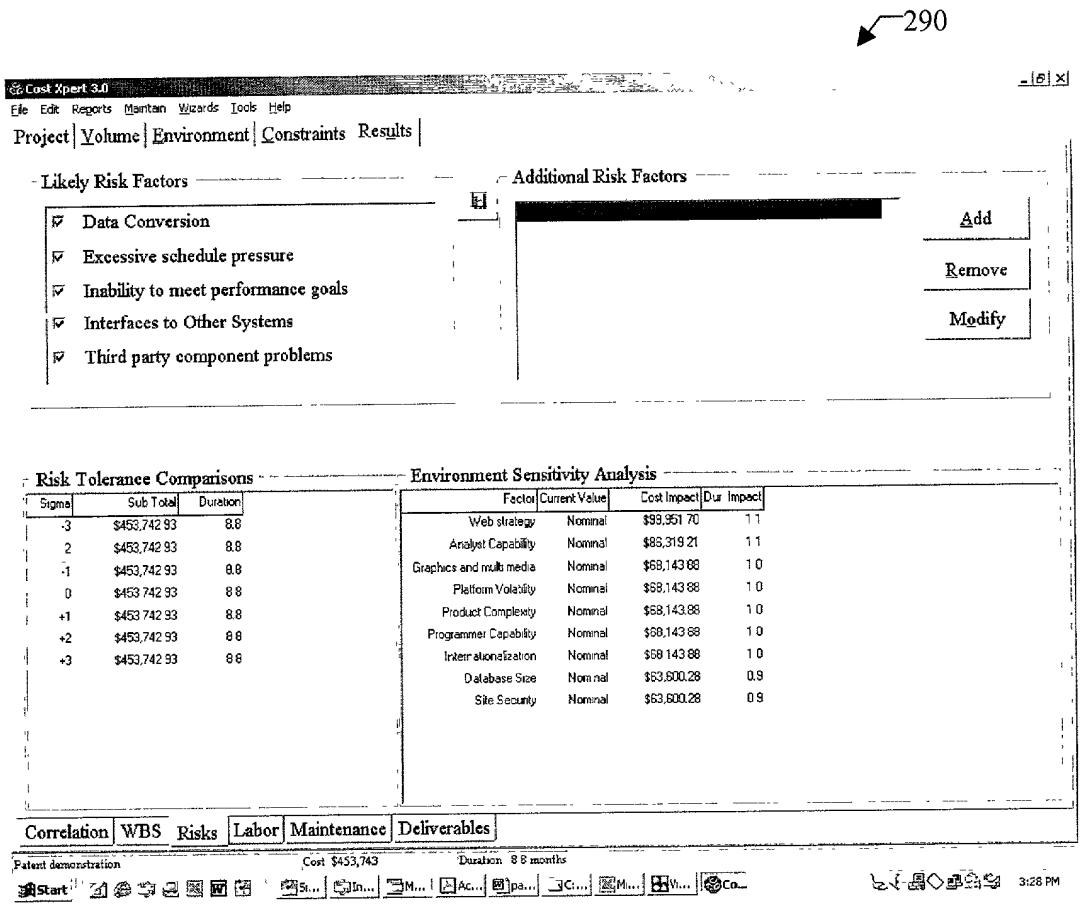
290
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Likely Risk Factors
Data Conversion
Excessive schedule pressure
Inability to meet performance goals
Interfaces to Other Systems
Third party component problems
Additional Risk Factors
Add
Remove
Modify
Risk Tolerance Comparisons
Sigma Sub Total Duration
-3 $453,742 93 8.8
-2 $453,742 93 8.8
-1 $453,742 93 8.8
0 $453 742 93 8 8
+1 $453 742 93 8.8
+2 $453,742 93 8 8
+3 $453,742 93 8 8
Environment Sensitivity Analysis
Factor Current Value Cost Impact Dur Impact
Web strategy Nominal $99,951 70 1 1
Analyst Capability Nominal $86,319 21 1 1
Graphics and multi media Nominal $68,143 88 1 0
Platform Volatility Nominal $68,143 88 1 0
Product Complexity Nominal $68,143.88 1 0
Programmer Capability Nominal $68,143 88 1 0
Internationalization Nominal $68 143 88 1 0
Database Size Nominal $63,600.28 0.9
Site Security Nominal $63,600.28 0 9
Correlation WBS Risks Labor Maintenance Deliverables
Patent demonstration
Cost $453,743
Duration 8 8 months
Start
3:28 PM

FIG. 17

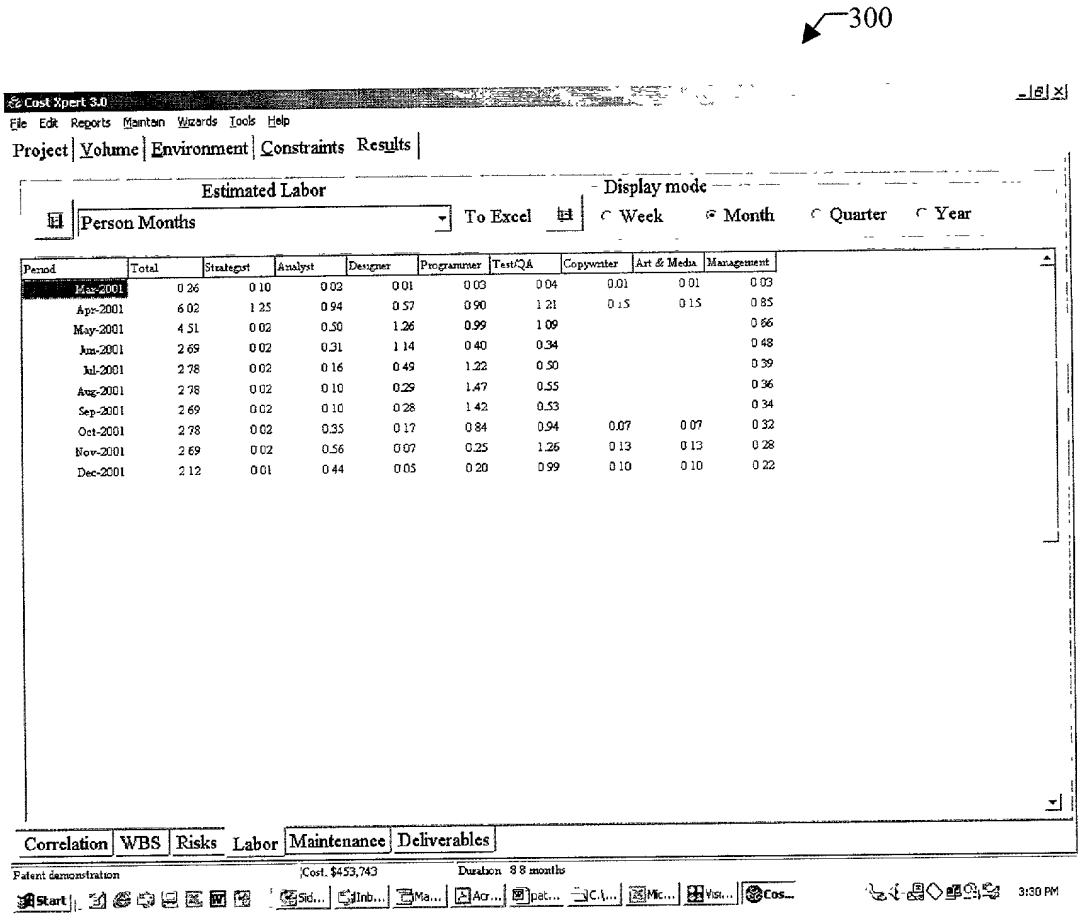
300
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project Volume Environment Constraints Results
Estimated Labor
Person Months
To Excel
Display mode
Week
Month
Quarter
Year
Period | Total | Strategist | Analyst | Designer | Programmer | Test/QA | Copywriter | Art & Media | Management
Mar-2001 | 0 26 | 0 10 | 0 02 | 0 01 | 0 03 | 0 04 | 0.01 | 0 01 | 0 03
Apr-2001 | 6 02 | 1 25 | 0 94 | 0 57 | 0 90 | 1 21 | 0 15 | 0 15 | 0 85
May-2001 | 4 51 | 0 02 | 0.50 | 1.26 | 0.99 | 1 09 | | | 0 66
Jun-2001 | 2 69 | 0 02 | 0.31 | 1 14 | 0 40 | 0.34 | | | 0 48
Jul-2001 | 2 78 | 0 02 | 0 16 | 0 49 | 1.22 | 0 50 | | | 0 39
Aug-2001 | 2 78 | 0 02 | 0 10 | 0.29 | 1.47 | 0.55 | | | 0 36
Sep-2001 | 2 69 | 0 02 | 0 10 | 0 28 | 1 42 | 0.53 | | | 0 34
Oct-2001 | 2 78 | 0 02 | 0.35 | 0 17 | 0 84 | 0.94 | 0.07 | 0 07 | 0 32
Nov-2001 | 2 69 | 0 02 | 0.56 | 0 07 | 0.25 | 1.26 | 0 13 | 0 13 | 0 28
Dec-2001 | 2 12 | 0 01 | 0 44 | 0 05 | 0 20 | 0 99 | 0 10 | 0 10 | 0 22
Correlation WBS Risks Labor Maintenance Deliverables
Patent demonstration
Cost: $453,743
Duration 8 8 months
Start
3:30 PM

FIG. 18

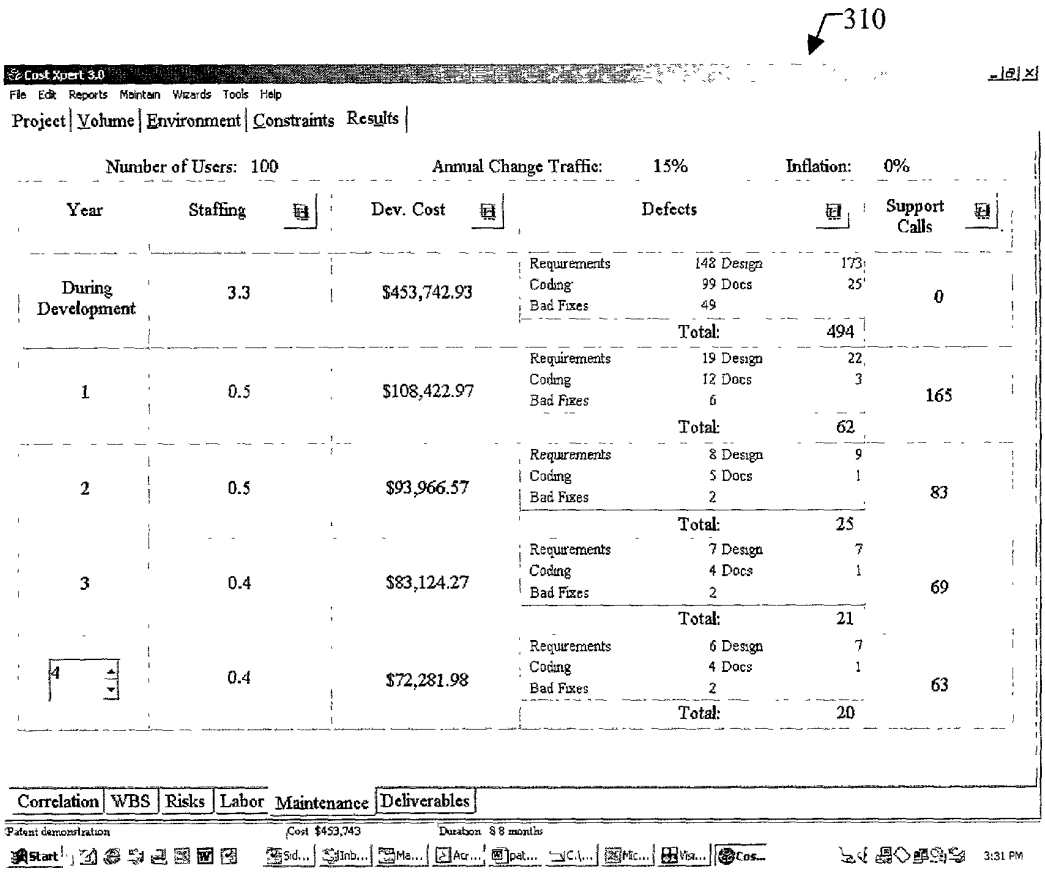
310
Cost Xpert 3.0
File Edit Reports Maintain Wizards Tools Help
Project | Volume | Environment | Constraints | Results
Number of Users: 100
Annual Change Traffic: 15%
Inflation: 0%
Year
Staffing
Dev. Cost
Defects
Support Calls
During Development
3.3
$453,742.93
Requirements 148 Design 173
Coding 99 Docs 25
Bad Fixes 49
Total: 494
0
1
0.5
$108,422.97
Requirements 19 Design 22
Coding 12 Docs 3
Bad Fixes 6
Total: 62
165
2
0.5
$93,966.57
Requirements 8 Design 9
Coding 5 Docs 1
Bad Fixes 2
Total: 25
83
3
0.4
$83,124.27
Requirements 7 Design 7
Coding 4 Docs 1
Bad Fixes 2
Total: 21
69
4
0.4
$72,281.98
Requirements 6 Design 7
Coding 4 Docs 1
Bad Fixes 2
Total: 20
63
Correlation | WBS | Risks | Labor | Maintenance | Deliverables
Patent demonstration
Cost $453,743
Duration 8 8 months
Start
3:31 PM

FIG. 19

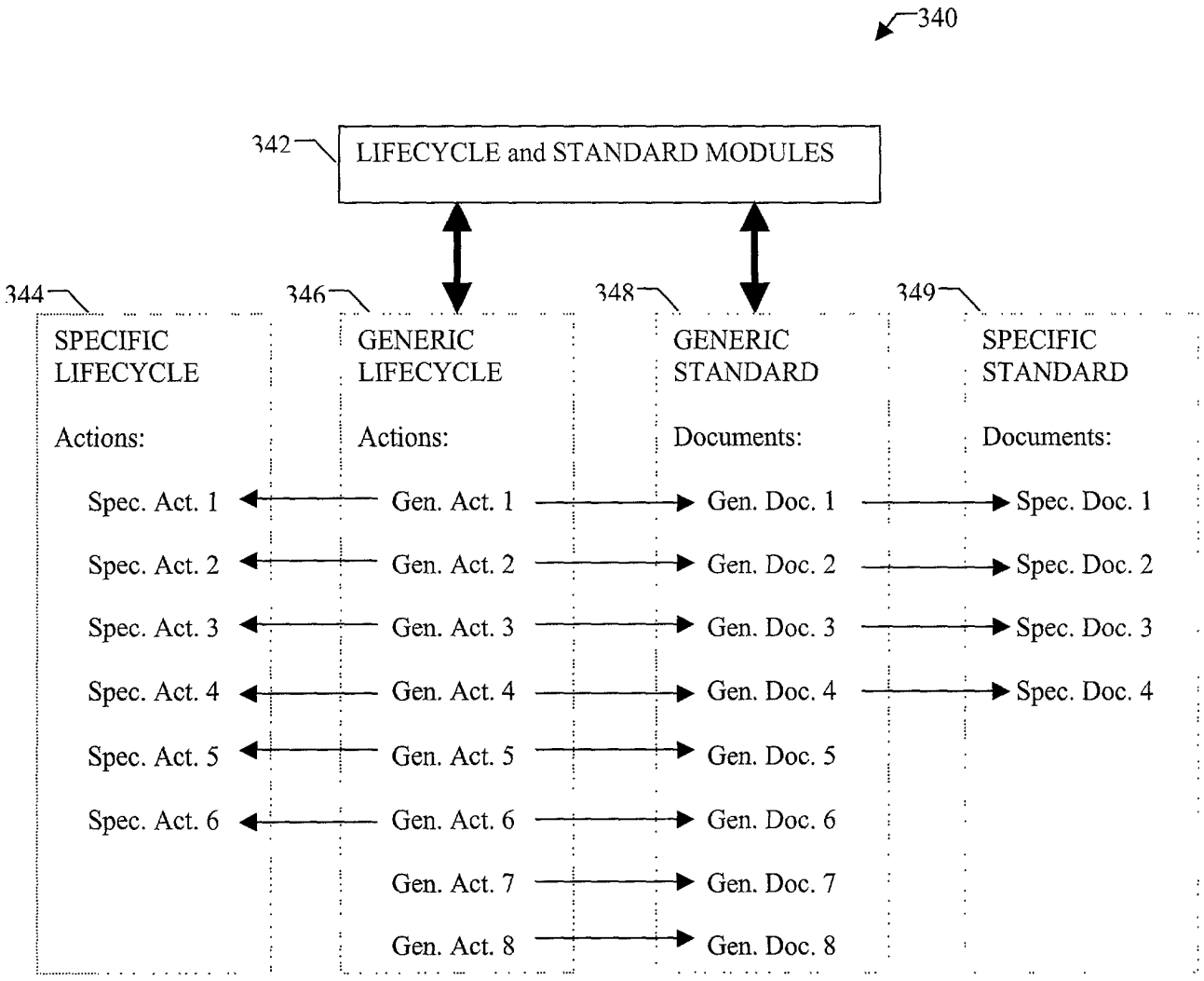
340
342
LIFECYCLE and STANDARD MODULES
344
346
348
349
SPECIFIC LIFECYCLE
Actions:
GENERIC LIFECYCLE
Actions:
GENERIC STANDARD
Documents:
SPECIFIC STANDARD
Documents:
Spec. Act. 1
Spec. Act. 2
Spec. Act. 3
Spec. Act. 4
Spec. Act. 5
Spec. Act. 6
Gen. Act. 1
Gen. Act. 2
Gen. Act. 3
Gen. Act. 4
Gen. Act. 5
Gen. Act. 6
Gen. Act. 7
Gen. Act. 8
Gen. Doc. 1
Gen. Doc. 2
Gen. Doc. 3
Gen. Doc. 4
Gen. Doc. 5
Gen. Doc. 6
Gen. Doc. 7
Gen. Doc. 8
Spec. Doc. 1
Spec. Doc. 2
Spec. Doc. 3
Spec. Doc. 4

FIG. 20